INDIANA DEPARTMENT OF TRANSPORTATION
OFFICE OF MATERIALS MANAGEMENT

PROCEDURE FOR ROADWAY FIELD EVALUATION FOR TEMPORARY PAVEMENT MARKING TAPE, TYPE I
ITM No. 927-15P

1.0 SCOPE.

1.1 This procedure covers the method that temporary pavement marking tape, type I, is evaluated.

1.2 This ITM may involve hazardous materials, operations, and equipment and may not address all of the safety problems associated with the ITM use. The ITM user's responsibility is to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

2.0 REFERENCES.

2.1 ASTM Standards.

D 6628 Specification for Color of Pavement Marking Materials

E 1710 Standard Test Method for Measurement of Retroreflective Pavement Marking Materials with CEN-prescribed Geometry Using a Portable Retroreflectometer

2.2 Federal Specification.

Federal Standard Color Chips 595a, No. 33538 for yellow.

2.3 Highway Capacity Manual 2000.

Highway Capacity Manual 2000, Chapter 10, Exhibit 10-23 Default Lane Utilization Adjustment Factors

2.4 Manual on Uniform Traffic Control Devices.

Part VI Standard and Guides for Traffic Controls for Street and Highway Construction, Maintenance, Utility and Incident Management Operations

3.0 TERMINOLOGY. Definitions for terms and abbreviations shall be in accordance with the Department's Standard Specifications, Section 101.

4.0 SIGNIFICANCE AND USE. This ITM is used to evaluate removable construction pavement marking tape, type I. Each manufacturer's type of temporary pavement marking tape, type I will be evaluated separately.

5.0 APPARATUS.

5.1 Retroreflectometer, Delta Model LTL-2000, Delta Model LTL-X, or Gamma Scientific Model Stripemaster II. The measurement geometry used will be 88.76° for the entrance angle β_1, 0° for β_2, and 1.05° for the observation angle. The aperture angles for both the source and receiver will not exceed 0.33°.

5.2 Hunter Lab MiniScan XE-Plus 45/0 Spectrophotometer

5.3 Calibration. Before each use of an instrument, a verification of each instrument calibration will be preformed using the secondary standards that are provided with the instruments. A factory calibration shall be performed on the retroreflectometer at a minimum of once per calendar year.

6.0 PROCEDURE.

6.1 The color coordinates, x and y, and retroreflectivity readings will be taken prior to the placement and on the date of field reviews.

6.2 The manufacturer, or his representative, shall place the material on both concrete and asphalt surface pavements. Assistance is only given by the Department if requested and personnel are available. The material shall not be placed using a primer. When both colors of material are simultaneously being evaluated, there shall be three white transverse strips and three yellow transverse strips. These transverse strips shall be placed across the entire lane and at 1 ft spacing and alternating color. There shall also be four, 12 ft long, longitudinal strips. Two of the strips shall be white and two of the strips shall be yellow. The longitudinal strips shall be placed as follows: one yellow strip on the left edge of the lane, one white strip on the left wheel path, one yellow strip on the right wheel path, one white strip on the right edge of the lane

6.3 Field review of the material will be conducted after approximately 700,000, 1,000,000, and 1,600,000 vehicles have traveled over the test area. On each field review, retroreflectivity and color readings will be taken and tape removals will be made. Retroreflectivity and color readings on the transverse lines will be taken at the left edge of the lane, left wheel path, center of lane, right wheel path and right edge of the lane. Retroreflectivity and color readings on the longitudinal lines will be taken at each end of the line. Relative ease of removal and size and number of pieces the materials break into during the removal will be noted. Visual observations of material adhesion to the roadway will be made during the reviews. Visual observations of the color and retroreflectivity will be conducted at night.

7.0 CALCULATIONS.

7.1 The estimate for vehicles traveling across the test area on a daily basis will be calculated by dividing the ADT volume by 2 to determine the directional movement of vehicular volume. The directional movement of vehicular volume will then be multiplied by the appropriate percentage, based upon the lane configuration of the roadway that is given under the heading of "Traffic in Most Heavily Traveled Lane (%)" of Exhibit 10-23 of Chapter 10 of the Highway Capacity Manual 2000. The lane containing the evaluation material will be assumed to be the most heavily traveled lane.

7.2 The average retroreflectivity reading for each color of the tape, for each time of acquiring data is determined.

7.3 The average color chromaticity readings for each color of the tape, for each time of acquiring data is determined.

8.0 REPORT. The average data reading of the test results for both colors of a manufacturer's specific temporary pavement marking tape will be tabulated in the final report.

INDIANA DEPARTMENT OF TRANSPORTATION
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PRELIMINARY INFORMATION FOR PRODUCT MATERIAL EVALUATION

Trade Name: _____ Date: _____

Manufacturer: _____ Patented? Yes _____ No _____ Applied for _____

Address: _____
Street No (P. O. Box) City State Zip Code

Representative: _____ Phone No ( )_____

Address: _____
Street No (P. O. Box) City State Zip Code

Product Information: _____

_____

Materials Composition: _____

_____

_____

** Is this product considered hazardous material when disposing of non-used or surplus materials? Yes _____ No _____

** What is the shelf life of this material? Years _____Months _____N/A _____

Recommended Use (Primary): _____

_____

_____

Recommended Use (Alternate):_____

_____

_____

Advantages and/or Benefits: _____

_____

_____

** Materials specifications by manufacturer, installation/operation manual, literature, test results, guarantee, hazardous material data sheets, plan, picture or sketch are required to be submitted with this form. In the case of electronic devices the schematic diagram, parts list, and parts layout diagram are required to be submitted for each printed circuit board within the device.

Meets following specifications:

AASHTO: _____ _____

ASTM: _____ _____

OTHER: _____

Use by highway authorities or similar agencies in other states.

Agency	Years Used	Remarks
_____	_____	_____
_____	_____	_____
_____	_____	_____

** Has product ever been evaluated by and rejected for use by a governmental agency?

Yes _____ No _____ If yes, by what agency and for what reason:

_____

_____

Will demonstration be provided? Yes _____ No _____

Availability: Seasonal _____ Non-seasonal _____ Delivery at site _____

After receipt of order, are quantities limited? Yes _____ No _____

Will laboratory analysis be furnished? Yes _____ No _____

** Approximate cost: _____ Royalty Cost: _____

When was the product introduced to the market? _____

This product is an alternate for what product? _____

_____

_____

Will warranty be provided? Yes _____ No _____ If yes, for how long? _____

Background of company, including principal products: _____

_____

_____

_____

What offices of the Indiana Department of Transportation have been contacted?

_____

Additional Information: _____

_____

_____

_____

_____

(Attach additional sheets as necessary)

Person furnishing information: _____
Name

_____
Title

Address: _____
Street No (P. O. Box)

_____
City

_____
State Zip Code

Items marked ** are required to be responded to or further consideration may not be given for this product.

Please mail this form to:

Traffic Evaluations Engineer
Office of Materials Management
120 S. Shortridge Rd
Indianapolis, IN 46219